

CLAIMS

1. Desiccant container, with increased tightness, made of thermoplastic polymer materials, for the packaging of products sensitive to ambient moisture, presented in processed or unprocessed forms, consisting of:

- a tubular casing (1), forming the product packaging zone, closed at one of its ends
5 by a base (2) and open at the other end (3),
 - sealing means (4) of the open end (3) of the tubular casing (1),
 - connection means (5) placed between the sealing means (4) and the tubular casing (1),
 - packaging means (6) of a desiccant agent placed on the inner face of the sealing
10 means (6),
 - a collar type outer peripheral stop (7), created in the vicinity of the open end (3) of the tubular casing (1) whereon the sealing means (4) are supported in the closed position,
characterised in that:
- 15 a) the sealing means (4) of the open end (3) of the tubular casing (1) consist of a cap-lid coaxial with the tubular casing (1) consisting of an upper end wall and two concentric tubular peripheral walls (9 and 10), one inner wall (9) and one outer wall (10), forming together a deep peripheral groove (11) having walls distanced from each other to cover, when said sealing means are closed, the peripheral wall (12)
20 of the open end (3) of the tubular casing (1) up to the peripheral stop (7), creating four successive surface to surface type tightness peripheral zones forming four successive tightness barriers between the open end (3) of the tubular casing (1) and the cap-lid (4),
 - b) the connection means between the tubular casing (1) and the sealing means (4)
25 consist of a mechanical hinge (5), preferentially removable, ensuring the precision of the closure.

2. Desiccant container according to claim 1, characterised in that the first surface to surface type peripheral tightness zone is established between the outer coaxial
30 wall (10) of the deep peripheral groove (11) and the outer face of the wall of the open end (3) of the tubular casing (1).

3. Desiccant container according to claim 1, characterised in that the second surface to surface type peripheral tightness zone is created between the peripheral base of the deep groove (11) and the peripheral edge (30) of the open end (3) of the tubular casing (1).

4. Desiccant container according to any of claims 1 to 3 characterised in that the base of the peripheral groove (11) has the same cross-section as the cross-section of the peripheral edge of the open end of the casing (1).

5. Desiccant container according to claim 4 characterised in that the cross-section is of the sharp angle type.

6. Desiccant container according to claim 4 characterised in that the cross-section is of the arc of a circle type.

7. Desiccant container according to any of claims 1 to 6 characterised in that the peripheral edge of the open end (3) of the casing (1) is in the prolongation of said casing (1).

8. Desiccant container according to any of claims 1 to 6 characterised in that the peripheral edge of the open end(3) of the casing (1) protrudes from said casing (1).

9. Desiccant container according to any of claims 1 to 8 characterised in that the distance between the inner (9) and outer (10) walls of the groove is at least equal to the thickness of the tubular casing (1).

10. Desiccant container according to claim 1, characterised in that the third surface to surface type peripheral tightness zone is established between the inner surface of the inner coaxial wall (9) of the deep peripheral groove (11) and the inner surface of the open end (3) of the tubular casing (1).

11. Desiccant container according to claim 10 characterised in that the contact height of the third surface to surface type peripheral tightness zone extends from the lower end of the inner wall (9) to the base of the groove (11).

5 12. Desiccant container according to any of claims 1 to 11 characterised in that the height of the inner peripheral wall (9) of the groove (11) is at least equal to and preferentially greater than the height of the outer wall of said groove (11).

10 13. Desiccant container according to any of claims 1 to 12 characterised in that the inner surface of the inner peripheral wall (9) comprises an annular type peripheral protuberance (31).

14. Desiccant container according to claim 13 characterised in that the annular type peripheral protuberance (31) is engaged into a corresponding peripheral groove (32)
15 placed on the inner wall of the open end (3) of the casing (1).

15. Desiccant container according to claim 1, characterised in that the fourth surface to surface type peripheral tightness zone is established between the plane lower edge of the outer wall (10) of the deep groove (11) and the plate of the outer peripheral stop (7).
20

16. Desiccant container according to any of claims 1 to 15, characterised in that the depth of the deep peripheral groove (11) is between 45% and 95% of the thickness of the cap-lid (4) measured on the outer peripheral wall (10) of said groove.
25

17. Desiccant container according to any of claims 1 to 16, characterised in that the outer peripheral wall (10) of the deep peripheral groove (11) is continuous.

18. Desiccant container according to any of claims 1 to 17, characterised in that the
30 outer peripheral wall (10) of the deep peripheral groove (11) is rendered discontinuous by notches (20).

19. Desiccant container according to any of claims 1 to 18, characterised in that the cap-lid (4) is equipped with a gripping visor (17).

5 20. Desiccant container according to any of claims 1 to 19, characterised in that the inner face of the outer wall (10) of the groove (11) and the outer face of the outer wall of the tubular casing (1) are equipped with snap-on means.

10 21. Desiccant container according to any of claims 1 to 20, characterised in that the mechanical hinge (5) is formed by two parts, one so-called male part incorporated in the tubular casing (1), the other so-called female part incorporated in the cap-lid (4).

15 22. Desiccant container according to claim 21, characterised in that the so-called male part of the hinge (5) incorporated in the tubular casing (1) consists of two bracket plates (13) connected with each other by a rotation axis (15).

23. Desiccant container according to claim 22, characterised in that the rotation axis (15) is prolonged beyond both bracket plates (13) by protruding ends (19).

20 24. Desiccant container according to claim 23, characterised in that the so-called female part of the hinge (5), incorporated in the cap-lid (4), consists of:
- two bracket plates (17) placed at a distance with respect to each other such that they can encompass the bracket plates (13) of the so-called male part of the hinge (5),
- a groove (16) intended to receive the rotation axis (15), delimited by inner (10) and outer (14) walls.

25 25. Desiccant container according to claim 24, characterised in that the bracket plates (17) are equipped with orifices (18) to receive the protruding ends (19) of the rotation axis (15).

30 26. Desiccant container according to claim 24, characterised in that the length of the groove (16) intended to receive the rotation axis (15) is at most equal to the distance existing between the inner faces of the bracket plates (13).

27. Desiccant container according to any of claims 1 to 26, characterised in that the packaging means (6) of a desiccant agent placed on the inner face of the cap-lid (4) is preferentially of the tubular type.
- 5 28. Desiccant container according to any of claims 1 to 27, characterised in that the tubular casing (1) and the cap-lid (4) are produced together with the same thermoplastic polymer composition.
- 10 29. Desiccant container according to any of claims 1 to 27, characterised in that the tubular casing (1) and the cap-lid (4) are produced with different thermoplastic polymer compositions.
- 15 30. Desiccant container according to any of claims 1 to 29, characterised in that the tubular casing (1) and the cap-lid (4) are produced using plastics technology methods using thermoplastic polymer compositions selected from the group consisting of polyethylenes (PE), polypropylenes (PP), ethylene/propylene copolymers and mixtures thereof, polyamides (PA), polystyrenes (PS), acrylonitrile-butadiene-styrene copolymers (ABS), styrene-acrylonitrile copolymers (SAN), polyvinyl chlorides (PVC), polycarbonates (PC), polymethyl methacrylate (PMMA),
20 polyethylene terephthalates (PET), used alone or in a mixture.
- 25 31. Desiccant container according to claim 30, characterised in that the thermoplastic compositions are associated with at least one elastomer of natural or synthetic origin, the elastomer(s) used possibly being selected preferentially from the group consisting of elastomers such as natural rubbers, synthetic rubber, particularly mono-olefin rubbers, such as isobutylene/isoprene polymers, ethylene vinyl acetate (EVA), ethylene propylene (EPR), ethylene propylene diene (EPDM), ethylene-ester acrylates (EMA-EEA), fluorinated polymers, diolefin rubbers, such as polybutadienes, styrene-butadiene (SBR) copolymers, condensation product-based
30 rubbers such as polyester and polyurethane thermoplastic rubbers, silicones, styrene rubbers, styrene-butadiene-styrene (SBS) and styrene-isoprene-styrene (SIS).

32. Desiccant container according to any of claims 1 to 31, characterised in that the desiccant agent is in powder form.

5 33. Desiccant container according to any of claims 1 to 32, characterised in that the desiccant agent is selected from the group consisting of silica gels, molecular sieves.

34. Use of the desiccant container according to claims 1 to 33 for the packaging of products sensitive to ambient moisture.